

An in vitro study of the toxic effects of *Stachybotrys chartarum* metabolites on lung cells

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Abstract

During a study of indoor fungal colonisation, several isolates of *Stachybotrys chartarum* were recovered, and the effects of metabolites from four isolates on lung epithelial Type II cells and alveolar macrophages were studied in vitro. All the isolates showed toxic effects on both cell types, and they differed only in the extent of the changes induced. In Type II cells, the number of alkaline phosphatase positive cells was reduced, the pattern of Maclura pomifera agglutinin (MPA) binding was changed, and acid phosphatase activity in alveolar macrophages was diminished. In both cell types, the production of monocyte chemotactic protein-1 (MCP-1) and tumour necrosis factor-alpha (TNF-alpha) was changed, and parameters related to antioxidant status (superoxide dismutase, glutathione peroxidase, glutathione) were decreased.

PMID: 17411351

Source: <https://www.ncbi.nlm.nih.gov/pubmed/?term=17411351>